Center for Open Access in Science ▪ https://www.centerprode.com/ojls.html
Open Journal for Legal Studies, 2025, *8*(1), 13-34.
ISSN (Online) 2620-0619 ▪ https://doi.org/10.32591/coas.ojls.0801.02013e

Ethical Legal Practice and the Integration of AI into Legal Profession: Striking the Balance

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Received: 8 April 2025 ▪ Revised: 6 July 2025 ▪ Accepted: 27 July 2025

Abstract

Smart technologies have produced the realities of Artificial Intelligence (AI) which has become a global phenomenon, pervading and defying professional boundaries. This paper basically engages the application of AI to the practice of law, especially with respect to the ethical and pragmatic questions identified with the trend in the light of the conservative nature of the legal profession. It highlights the drift from intensive labor-based practice to seamless, technology-driven approaches, which leverages on the potentials of AI to improve access to legal services by streamlining legal procedures and outcomes. It further explores the ethical discomforts introduced by the engagement of AI, resulting in biases and lack of transparency, especially in legally sensitive areas of law which includes child custody disputes, divorce cases and criminal justice delivery. It emphasizes the need for vigilance to ensure that the integration of AI technologies does not lead to the erosion of ethical integrity of the legal profession which may impugn the judicial process. A case is made for a "human in the loop" approach which harmonizes human knowledge and AI technologies, designating the role of AI as merely complementary.

Keywords: legal ethics, artificial intelligence (AI), algorithmic bias, legal technologies, legal practice.

1. Introduction

Artificial Intelligence (AI) has evolved as a global phenomenon. Its disruptive tendencies permeate all facets of human endeavors. It is the driving force behind diverse smart technology platforms such as the WhatsApp, Global Positioning Systems (GPS), Instagram, TikTok, Facebook, Google and other social media handles which have become the modern man's daily engagement. The tremendous quantum of digital communications and networking poses palpable challenges to lawyers, particularly in criminal trials (Mahalias, 2024). This was demonstrated in *R v Allan* (Metropolitan Police, 2018)[1]where forty-thousand social media communications were not tendered in evidence because of the bulk of documents that needed to be analyzed, resulting in the failure of the charge. Algorithms prominently deploy high-frequency data in the commercial/economic domain of human endeavors, from marketing and pricing (Li, 2024) to healthcare delivery (Akinpelu & Akintola, 2023) and then to the volatile capital market, delivering almost accurately on tasks.

[1] Metropolitan Police, "A Joint Review of the Disclosure Process in the Case of R v Allan," Crown Prosecution Service (CPS) (2018). https://www.cps.gov.uk.

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The legal profession, court procedures and judicial processes are notoriously conservative and admit reforms at snail speed because of the complex nature of justice delivery (Sule et al., 2024). The conservative nature of law must yield to the speed of innovative commerce if law must retain its relevance as the gatekeeper of social engineering. Despite the customary reluctance to embrace smart technology, legal practice has made remarkable progress in inculcating the use of AI. This has become necessary for efficiency in case management, simplicity of procedure and greater access to legal solutions (Umukoro et al., 2024). To this end, the legal profession currently admits massive species of AI-powered engines. These innovative engines enable individual legal practitioners to engage in tasks such as legal documentations of testamentary dispositions, deeds and contracts as well as make depositions and submissions virtually from the comfort of their homes/offices (Mrabure et al., 2023), breaking the barriers of distance without compromising efficiency. AI solutions have assisted individual legal practitioners in data analysis for the prediction of litigation outcomes using judicial precedents and probable statistics. The case management potentials of AI solution help to expedite customarily unwinding and complex legal proceedings. In the evolving automation-powered landscape, legal disputes have been resolved with enhanced, precise and predictable judgments (Conrad et al., 2023).

However, the achievement of precision in dispute resolution is inextricably laced with inherent risks of embedded biases within its outcomes. The bias angle which has questioned the efficacy and impartiality of AI algorithms are intrinsically traceable to the quality and nature of data with which they are programmed (Kasap, 2021). Consequently, unethical biases reflecting societal predispositions to gender, sexual orientation and race filter in to influence the outcomes in matters as sensitive as divorce settlements, bail (*COP v Maxwell Ohwonohwo,* 2023),[2] child custody (*Salgueiro da Silva Mouta v Portugal, 1999*)[3] and injunctive reliefs in precise reflection of the data model used in the training. There is also a propensity by human programmers in the development and coding of AI systems to introduce additional layer of complexity by perpetuating primordial prejudices. The result undermines the sanctity and precision of AI-enabled legal outcomes.

The delicate relationship between algorithmic potential to enhance legal analysis and its tendencies towards biases warrants unrelenting vigilance in AI integration into the practice of law (Sinwar, et al, 2023). The legal profession, unlike other professions, holds the balance for equity and fairness to all manner of persons. Legal technologies powered by AI are accordingly held to higher standards, highlighting the need for painstaking scrutiny of data-sources to guarantee algorithmic transparency with a view to eliminating systemic inequalities inherent in the data.

The article engages the emerging role of legal practitioners in handling family law disputes and criminal justice proceedings within the legal architecture, particularly in the era of smart technology. It investigates how AI solution to legal issues may impact the legal paradigm, expanding the frontiers of concerns for ethical standards for which the legal profession is known.

2. Shedding the light on AI

[2] *Commissioner of Police (COP) v Maxwell Ohwonohwo & 68 Ors. (*Suit No: *EHC/ M/ 33c/ 2023.* A Ruling of Honourable Justice C. E. Achilefu, Judge at High Court No. 1 Effurun Delta State Nigeria on Monday, 4 September 2023 remanding Defendants to Prison Custody.

[3] *Salgueiro da Silva Mouta v Portugal.* Application No. 33290/96, Judgement delivered 21 December 1999. (EU)

In order to have a broad appreciation of the intersection between AI and the practice of law as a profession, it is imperative to demonstrate a vivid understanding of the capacity and capabilities of AI as the superstructure of legaltech. AI is not capable of a universal, straight-jacket definition though its influence is widely felt in all smart technologies. This largely results from the ever-evolving structure of AI and non-existent universal legal infrastructure on the novel talisman (Schuett, 2023). Sabour and Mehrdel (2024) identify the failure to have a universally acceptable definition of AI as a global challenge militating against bureaucratic governance of AI which has defied political boarder-control measures.

Accordingly, what constitutes AI is subjective and best described as moving target (Greenstein, 2022). Sheikh et al. (2023) conceive AI as a technological evolution of computer machines for the purpose of executing tasks and engaging processes that naturally require the cognitive capacity of humans. They are broadly programmed to augment the application of machines in complex tasks demanding human-like intelligence. Aloamaka and Omozue (2024) conceive AI as a phenomenal, indispensable component of modern society which offers unprecedented possibilities within diverse sectors, including arts and literature. The cognitive behavioral tendencies of AI may support its identity with robots. Some scholars use both concepts interchangeably for the purpose of legal definition (Popovic & Sabo, 2022). This author, however, identifies robots as possessing bodies and shapes whereas AI simpliciter may have the nature of intangibly configured computer chips. It has been suggested that the intersection between robotics and artificial intelligence algorithms have produced machine personalities capable of carrying out functions without the slightest of human intervention. AI is capable of multiple tasks including legal analysis, computer vision and pattern recognition, as well as natural language processing. The arrival of AI-driven technology (legaltech) on the legal space has been transformative, revolutionizing and disruptive of the orthodox human-labor abilities to deliver on general legal tasks particularly, the more tasking researches or investigative assignments, producing results that ordinarily further legal inquiries.

The expansive and dynamic nature of AI makes for fluidity in its definition, often evolving alongside advancements in various fields and societal trends. The ever-evolving nature of AI known as the "AI effect", underscores shifting the boundary of what is considered AI (Mickunas & Pilotta, 2023). The revolutionary tendencies of AI in the legal practice domain engages complex coding for deep learning, case-based reasoning, legal data analysis and decision-making. The evolution of AI-based attorneys or robot-lawyers manifests AI software programmed to execute tasks and responsibilities customarily performed by human-legal professionals thereby questioning the potential relevance of lawyers in the technology-driven era (Villata et al, 2022).

2.1 *Dual approach in AI manifestation: Exploring the realm of expert systems and machine-learning*

Al solutions may be broadly classified into two areas. First, there is the category that functions by behavioral inference with the aid of a set of axioms because it is powered by knowledge-based or expert systems. These systems are trained with legal rules and syllogism to reason in specific legal or other professional domains. Examples include commercial tax preparation software, pricing (Zihao, 2022) and healthcare diagnosis algorithms (Akinpelu & Akintola, 2023). These computer solutions are trained to analyze programmed circumstances to determine and take the best course of action following the outcome of the predetermined guidelines. Where the methods of analysis are incorporated, the algorithms are capable of progressively learning or enhancing their decision-making capabilities (Al-Surmi et al., 2022).

The second class of AI solutions is such that continuously enhance decision-making using probabilistic learning approach. This set adopts deep learning and machine-learning techniques and record exceptional performances which may result in unexpected outcome when

deployed to particular cases (Fabregat-Hernández et al., 2023). Deep learning computer vision solutions may sometimes make mistakes that are humanly avoidable in its picture categorization. Ramachandran and Kannan (2021) posit that this category of computers may mistake a turtle for a pistol. They are amenable to adversarial instances, deliberately tempered inputs designed to lure the algorithm into generating accurate and empirical data.

2.2 *Progressive innovations in legaltech: From COMPAS and E-Discovery to AI-Driven legal software*

In the evolving landscape of legaltech, the Correctional Offender Management Profiling for Alternative Sanctions (COMPAS) stands out as a prime solution. COMPAS' predictive capacity makes it a relevant tool to judges and lawyers alike. The relevance and preference for COMPAS has raised ethical questions despite its effectiveness (Jackson & Mendoza, 2020). Consequently, the solution has become a take-off point for scholarly arguments on whether or not legaltech should be embraced without juristic reservations given the ethical concerns raised about their output. COMPAS has presented a template for constructive evaluation of the opportunities and disadvantages of a wholesale integration of legaltech into legal practice.

E-discovery solutions are also relevant to this discourse. These software systems, with the aid of their all-inclusive database platforms provide critical tools for decision-making and information-management processes on myriad facets of legal practice. The software enhances the efficiency and viability of diverse procedures, including but not limited to the investigation, examination, gathering, recognition and preservation of data bearing relevance to court matters (Jackson, ibid). The software ensures a seamless extraction and compilation of caselaw and other legal authorities on various subject matters into a simple, accessible information repository. The enormous fusion of algorithms in a singular solution ensures fast and accurate processing of intricate legal data (Qu et al., 2023). Consequently, legal practitioners and jurists channel their energies to the technical aspect of the practice of law instead of spending much time manually brooding through books and indexes in search of legal solutions. The original delivery of e-discovery systems on tasks are currently piloted by AI-powered solutions.

2.3 *AI rule-based architectures*

Legaltech deploy AI-systems trained with rule-based data. They exhibit architecturally structured units of algorithms that determine outcomes following specific rules, precedents and encoded criteria in-built into the system (Laato et al., 2022). By these systems, decision-making is automatically propelled when predefined cases meet conditions or precedents programmed into the algorithms (Feng et al., 2023). Being *ad idem*, for instance, is a rule in the law of contract which demonstrates agreement, parties being on the same page. Algorithm-powered automations, robots and emojis have been used to advantage in contracts requiring less complex legal documentations, affording easy legal interpretation. In *South West Terminal Ltd v Achter Land and Cattle Ltd,*[4] (Patterson, 2024*)* the Saskatchewan Court of Appeal in Canada found that a contract between parties for the sale of flax was legally sealed with a thumbs-up emoji from the respondent-grain-buyer. A further illustration could be a hypothetical case for claim of alimony, the algorithm could be programmed with a rule stating, "Where parties married for Q number of years and one party's earning is way higher than the other, then Z amount which is calculable and proportional to the incomes under consideration is appropriate." Consequently, where the parties were married for more than 25 years and the man earns about twice of the wife's income, 40% of the man's earning is recommended as alimony for half of the duration of the marriage. Such

[4] [2023] SKKB 116.

predefined decision-making solution negates sentiments and human biases evident in the exercise of discretionary powers of the judge in such cases (Ashley, 2022). Thus, the development enhances efficiency and ensures consistency in the application of the law. However, reliance on the outcome may be unhelpful where a complex case does not fit into the predefined architecture.

The infusion of rule-based AI-solutions into the practice of law or judicial decision-making process automates the alignment of principles of law to relevant scenarios. In setting out clear indices for legal decisions, rule-based AI-solutions avail legal practitioners of objective and transparent assessment of legal judgments. The success of these solutions depends on the extensive, equitable and unbiased statement of the legal rules which the machines are designed to follow. This emphasizes the imperativeness of engaging experts, committed and knowledgeable individuals on the project of inclusive algorithm design.

2.4 *AI case-based architecture*

The AI-solutions' popularity among lawyers based on the ability of the rule-based AI solutions to save time and labor for the legal practitioner, the evolution of the case-based-reasoning (CBR) model of AI, was welcome across board as a paradigm shift from the rule-centered model. The CBR model engages a more flexible, case-by-case approach (Sallu et al., 2023). The novel operational features of the CBR comprises a module for the complex archiving of decided cases which are categorized within the database according to the causes, remedies and issues adjudicated upon for future access and analysis (Razmetaeva & Satokhina, 2022). This system is most relevant to lawyers practicing within the common law jurisdictions where hierarchy of courts and judicial precedents are sacrosanct. By the intentional comparison of the extant case or scenario with previously decided cases archived within the database, the CBR solution takes advantage of the parallels and consistencies drawn from historical data to predetermine outcomes.

The solution does a lawyer's job in writing legal opinions by leveraging the wealth of past legal decisions to interpret and analyses present cases to determine what the courts would do in the circumstances. By simplifying the decision-making process in taking advantage of precedents and factual similarities rather than abstract rules, the CBR elevates itself to an indispensable legal solution. The outcomes are usually contextually balanced and nuanced.

The CBR solution emerges as a milestone in the advancement of legaltech in common law domain. A practical illustration of CBR's application can be seen in a case of child custody dispute where one parent's ability to parenting a child and the other's moral and unstable social records are fundamental factors to be considered. In such circumstances, the CBR solution could draw comparisons with similar case-analyses within its database, relying on judicial precedents in which custody was awarded due to one parent's ability to parent a child and moral rectitude aligning with public policy (Nersessian & Mancha, 2021). Another instance could be in an election petition case where a party's flagbearer was not qualified to be nominated in the first instance or improperly nominated. The court had in such instances nullified the election of the person who was returned elected without proper qualification or procedure (Amaechi v INEC, 2008).[5] Election matters being such controversial cases of national importance have seen subsequent cases leveraging on CBR solution where issues have been joined on the qualification of a winner in a general election to ensure certainty and accuracy of the judicial decision-process. Certainty of judicial-decision-making approach is the yearnings of lawyers and litigators alike in jurisdictions with weak bureaucratic and judicial structures. The voices of Nigerians have been loudest in this area, particularly given the most recent political decisions rendered by the Nigerian Supreme Court. Noah (2024) advocates for a formidable database and search tool that would avail the

[5] Amaechi v INEC [2008].

Nigerian Supreme Court the benefit of its previous decisions as well as those of other jurisdictions for ease of discharge of its duties as a policy-making court of the Nigerian federation.

3. Empathy and legaltech: Any point of convergence in legal practice?

The integration of AI-solutions into the legal system has initiated a drift from customary to smart legal practices evidencing an evolution within the legal space. Legal practice was synonymous with manual-labor-intensive approaches, library research, legal documentation, filing and exchange of processes in hard copies. The liberalization of access to the internet, availability of mobile communication gadgets, emergence of 'new' media handles and the possibility of expansive cloud computing at the dawn of the millennium are cutting-edge interventions that have redefined the practice of law, particularly in the Global South. The evolving digital landscape has heralded innovative procedures such as streamlined client-intake processes, virtual court proceedings, remote access to documents, and e-filing arrangements all of which have deepened the integration of legaltech within the legal workspace (Garingan & Pickard, 2020).

Legaltech enabling virtual video conferencing have become willing tools in the handling of commercial disputes in the present era of globalization (Armour, 2020). The advantage of these tools in ensuring safety and participation of parties in Alternative Dispute Resolution (ADR) sessions is enormous. The inadequacies of AI-solutions have emphasized the indispensability of human factor in the overall dispensation of justice and practice of law. The truth is that while AI-tools afford manifest utility within the legal system, the nuanced appreciation of legal principles, empathy and ethos which the law requires to properly function as an instrument of social engineering must wear the human face (Blankley, 2020). It has been suggested that AI evolution has whittled down judges' discretionary inputs in judicial proceedings resulting in the erosion of moral reasoning and empathy, resulting in technicality (Situmeang et al., 2024). While AI has significantly enhanced the efficiency of legal processes, crucial importance of human judgment remains inevitable, especially in the specialized areas of divorce and custody matters. Family law cases are *sui generis*. Parties are in most cases unable to provide legal services for themselves unlike in criminal justice proceedings, where parties necessarily benefit from structured legal representation, including state-employed prosecutors, state-employed defense counsel also known as legal aid, court-appointed defense counsel as well as *pro bono* attorneys in private practice.

The distinction and multi-faceted features of legal service delivery raises the necessity for specialization and expertise. The complex nature of legal practice engenders personalized attention which sustains the fairness, integrity and discipline that reinforces the justice delivery architecture (Kasap, 2021). The legal profession is well known for ethical considerations and lawyers are held accountable to their actions (Ehirim et al., 2024). Much as individuals can access the vast legal information online, confusion and complications are inevitable on non-lawyers striving to comprehend complicated legal treatise, documentations and judicial decisions. This reality necessitates legal retainership for effective dispute resolution even in domestic matters, particularly in Europe and United States of America (USA) with limited alternatives to Online Dispute Resolution (ODR).

3.1 *Building empathy in dispute resolution by traditional methods*

Personal attention feature of customary dispute resolution driven by neutral third-party arbitrators, mediators and negotiators shows great advantages over ODR. The face-to-face approach and conducive informal settings coupled with the non-verbal communication tools produce empathy critical to the resolution of disputes with serious emotional attachments (Golovko & Druz, 2020). This is usually the case with traditional mediation on post-divorce asset sharing in which wild emotions rooted in the realities of permanent separation may produce initial

challenges. An experienced conciliator could wade through the emotionally thick atmosphere to enhance the success of the session by exuding empathy.

This is particularly the case in divorce cases and child-custody proceedings. The experience and compassion brought to bear on such disputes by the interveners in their face-to-face meetings can be helpful in achieving the set goal. In such circumstances, parties are wont to post a resolution that is mutually satisfactory considering the proper interpretation, peculiar body-language and rioting passions (Mota et al., 2023). In the same vein, commercial disputes benefit from the customary approach of dispute resolution. These cases of complex negotiations bothering on tangible relational investments among parties may transform into an enduring contract or agreement with a face-to-face engagement of disputants drawing on the experience and tact of the third-party interveners (Peters, 2021). Parties are more receptive of settlements when they consider their disputes within the bigger picture of effective relational outlook and interpersonal competencies. The outcome guarantees high client satisfaction resulting in voluntary compliance (Batdulam, 2023). To this end, the third-party mediator should be somebody who commands the respect of all parties and who has an in-dept understanding of the importance of the mutual relationship at stake. Agreements so reached in these sessions address specific needs and family values with inherent propensity to minimise or extinguish any appearance of such conflicts in future.

The inherent shortcomings of the traditional conflict settlement technique abound. It is expensive to run. The demand placed on the time and physical attendance of parties by the schedules of the meeting sometimes from far distances, comes with huge financial implications. The setting, which may be informal, creates an atmosphere of court presided over by huge personality whose presence suffices to stifle rather than to unburden the heaviness that informed the dispute in the first instance (Zeleznikow, 2021).

The weight of personalities may engender imbalances which constitutes a serious challenge in dispute resolutions. More assertive individuals could suppress the timid and taciturn fellows in a participatory face-to-face session (Alessa, 2022). Misinterpretation of non-verbal body-languages which is not uncommon at such sessions can undermine the success of the entire process. The customary approach to dispute resolution may be unfruitful in novel cases bothering on smart technologies like crypto assets. This is because the interveners may be unable to appreciate the intricacies of the issues at hand as a result of rapid pace of technological swings which are alien to such models of conflict resolution. The shortcomings of the customary approach to dispute resolution underscores the need for a hybrid approach that balances the traditional model with ODR for maximum impact on efficiency, accessibility and equity.

4. AI-tools' integration into the practice of law: Attendant ethical challenges

The involvement of AI into legal practice came in two remarkable stages. The initial phase reveals a mild transformative era in which prevalent traditional legal activities are enhanced by computer solutions and other technical tools. The efficacy of these tools reflected efficiency in the handling of cases by the bar and bench (Davis, 2020).

The second phase heralds a prime advancement in legaltech, especially optimization technology and legal automation. This era has birthed diverse solutions such as natural language processing, machine learning, and automated document evaluation. The foregoing solutions make for seamless work-interaction with huge databases liberalizing the possibilities for patterns recognition and human language analyses to aid legal-decision in most predictable manner (Herdiyanti, 2023). In the era under review, AI is certainly integrated into diverse legal procedures, particularly through automations. The development has aided trial courts in the use of complex algorithms in the pre-trial and sentencing stages of the trial process.

4.1 *The COMPAS innovation: From criminal justice to family law*

The Correctional Offender Marriage Profiling for Alternative Sanctions Programme is a prominent illustration of this. COMPAS has been engaged in the making of defensible choices. It does this by appraising available information concerning the defendant as it pertains to the alleged crime and juxtaposing it with the history or precedents of similar offences stored in database. The solution has an unprecedented record of evaluating a defendant's proclivity for engagement in criminal acts in the future with high degree of certainty.

The COMPAS software holds a bright promise for use in non-criminal proceedings such as proceedings in family law. The object of COMPAS solution is to identify the propensity of a defendant-on-trial absconding if bail is granted or committing another offence while on parole or after discharge. The in-built prediction-algorithm supplies a risk-indices outcome. The rating manifest in the score-value determines the chances that the defendant would commit offences in future after the extant trial (Yu, 2020).

The COMPAS solution may be used in judicial proceedings involving child-custody and marriage dissolution in the ever-evolving landscape of legal practice (Zavrsnik, 2021). The solution could be deployed to evaluate data on age, value system, behavioral traits, work-history, earnings, past relationships and crime history of both parents to enhance informed decision in child-custody dispute. It could also be engaged to analyze a catalogue of dispositions and conflicts with toxic impacts on the child. This may involve the identification of likely harms that may naturally emanate from each parent to the child as a result of on-going legal battles or abuse of narcotics. This aspect of family law matter requiring less empathy demonstrates the utility of COMPAS, showcasing the exponential integration of AI solutions within the mechanics of juridical decision-making for the purpose of providing a rather empirical approach to intricate family law suits.

The application of COMPAS solution to criminal justice decision-making process in USA's courts have elicited scholarly concerns, especially from Pro Publica, an investigative journalism outfit (Angwin et al, 2023). Investigations reveal institutional racial-bias in the outcomes of the algorithm's predictions. It reveals high statistics of African Americans being generally tagged with high risk of re-committing crimes after discharge. This contrasts with the low risks attached to the whites in similar circumstances. The percentage differences (47% of instances for whites and 28% for African Americans) is traceable to the data used by the trainers of the algorithms in their programming. The bias outcome is systemically ingrained in the algorithms resulting in a disproportionate surge in harsher court decisions against African Americans in contrast with the whites in similar circumstances (Lagioia, 2023).

Algorithmic bias arises when AI-solutions produce prejudicial outcomes consequent upon a skewed programming or the use of flawed or shallow databases invariably posing critical challenges to the integrity of the legal process (Leavy, 2020). The workings of the COMPAS solution raise germane ethical queries for the sustenance of the current trend of unhindered integration of AI-solutions into the legal architecture. The ethical concerns are not without consequences. Consequently, the COMPAS solution's exhibition of discrimination, inequity and bias in the criminal justice delivery structure in the US has engendered stiff criticism over the sanctity and integrity of its risk assessments outputs and the entire AI-powered process of decision-making. The opaque nature of AI solution decision-making procedures posts formidable ethical challenges which has shaken the foundations of the age-long principles of fairness and accountability in the legal architecture (Budic, 2022). The result is the erosion of confidence in the legal system. The truth is that when algorithms directly influence legal decision, it becomes unfair

and uncharitable to rightly apportion blames for errors or biases where such errors are obvious on the record. The conservative, customary accountability model in-built in every legal system is a prized asset when decisions are challenged on appeal.

It becomes as important in criminal proceedings as it is in family law. In the former instance, the life and limb of a citizen are at risk whereas in the latter, the destinies of children and entire family threads in the society are at risk at the instances of algorithmic errors. The errors may result in the suffering by the innocent in criminal trials and the dislocation of family resources in family law proceedings against ethical principles in legal practice. Ethics of the legal profession should therefore be concerned with the malpractices which bother on programmed-biases and opaque, overarching integrity of legal outcomes in this era of legaltech.

4.2 *AI and family law: The place for ethical considerations*

The integration of algorithmic solutions with inherent biases resulting from the jaundiced data chips, skewed algorithmic infrastructure and subjective prescriptions of the authors of the AI solutions propagates discrimination and inequitable judgments. The truth is that an AI solution trained on historically skewed data may prefer a particular demography over the others in judicial proceedings irrespective of the opacity of the rationale behind such preferences (Dressel & Farid, 2018).

The consequences of these biases include the practical alteration of the family expectations in family law suits and injustice on the innocent in criminal charges. Thus, the law becomes a currency of distrust in the circumstances (Menon, 2023). The development justifies the call for legaltech to be subjected to logical and juridical scrutiny from the evolution or training stages to the period allowing its injection into the legal market. Disclosure of AI technical framework to enable a sifting of the data and to rectify errors for the purpose of accountability should be encouraged (Spielkamp, 2020).

Legaltech should engender transparency and certainty of outcomes. An AI solution which operates transparently would enhance the trust, confidence and credibility of the public on the justice delivery architecture warranting empirical validation of legal outcomes devoid of bias (Andrada, 2022). Furthermore, transparency invites independent scrutiny and confirmation of AI solutions for the purpose of ensuring compliance with legal ethos and upholding the rights of individual citizens (Haresamudram, 2023). It imports arithmetic logic into legal decision-making so much so that litigants may by their independent understanding of the AI solutions object and seek review of the outcome where such is imputed to AI-powered system with skewed or faulty pre-determinants.

4.3 *Meandering the ethical horizon in family law matters*

Navigation of the ethical labyrinth of AI in law, especially in family law cases, warrants a balanced evaluation which respects the peculiar demands of persons in the process of coveting the capacity of technology to embellish fairness and efficiency within the entire judicial structure. The principal object of enquiry is to enhance the ability of AI solutions to deliver in a manner that is socially responsible and ethically commendable with commitment to transparency (Islam & Shufford, 2024). Constructive criticism in this aspect aims to safeguard the legal fraternity, upholding the sanctity of legal processes against omissions that may perpetuate biases and erode public trust in the judicial system (Akindele & Adewuyi, 2023).

The unique features of family law suits underscore the need for the invention of several software solutions beyond COMPAS to contain the dynamic societal demands. The use of these solutions has improved decision-making processes and whittled down contentious proceedings.

Generally, these solutions represent frontline application of AI and legaltech to make family law processes to be seamless by reducing friction-prone interactions in order to propagate workable resolution plans.

Wevorce is one of such solutions which offers virtual platform with panels of expert-arbiters drawn from financial, legal and sociological communities equipped to deploy technology to design personalized, non-contentious divorce roadmap with the object of avoiding full-blown trials in court (Wevorce, 2020). SmartSettle also uses Al-propelled model of negotiation to obviate imminent litigations by affording equitable soft-landing to parties in default while addressing the fears of those with brighter chances of success at the trials. coParenter has been successfully deployed to assist divorcees to co-manage their responsibilities by providing necessary communication tools to enhance fixing engagements and decision-making to bolster understanding, reducing frictions in the process (Zafar, 2024).

Similarly, DivorceBot affords a chatbot with personalised resources and guidance to navigate through the earliest stages of legal separation (Artificial Lawyer, 2023). OurFamilyWizard (OFW) affords a broad-based toolkit for improving relationships of co-parents in a vexed relationship by initiating shared time-schedules, communication and expense monitoring (Forman, 2023). Furthermore, LexMachina enables lawyers to design winning stratagem by affording analytical insights into patterns and decisions in similar cases (Machina, 2023). In family law proceedings, Modria's durable online dispute resolution application which employs data analysis and syllogism in summing up disputes and proposing resolutions has proved most effective (Remus & Levy, 2017).

4.4 *Integration of Toulmin's argumentation frameworks in the split-up tool*

AI solutions are amply deployed in problem-solving scenarios during sophisticated negotiations with a view to finding amicable grounds of resolution for parties. AI systems such as Split-up tool enlarges the merger of classical argumentation theory and advanced computational methods to enhance the negotiation proficiencies of professionals. This solution is prominently patterned after Toulmin's Model of Argumentation, a structure invented by Stephen Toulmin to evaluate the framework and ingredients of competent arguments (Pappas, 2024). The model's six-element broad compartments include: petitioner's claim, evidence in support of claim, the logical nexus between evidence and claim, additional support (if any) for the nexus, rebuttal or counter-arguments, and sifting the claim for the purpose of identifying the degree of truth in it. This theory applies to warrant logical analysis and transparency in the use of the solution.

It is worthy of note that the Toulmin's solution integrates the virtue of the Best Alternative Negotiated Agreement (BATNA), a popular nomenclature in the realm of negotiation jurisprudence. BATNA presents the most effective alternative route that a party may take should there be failure in negotiations or parties come to a dead-end situation. BATNA is strategically designed to access possible outcomes and to assist in parties to mutual benefits (Marsden & Siedel, 2017).

The Split-up solution presents a hybrid arrangement whereby explanations which address the outcomes are generated by galvanizing rule-based logic with neural networks for quality and transparency in legal decision-making. The transparency feature guarantees parties the right to critically renegotiate the settlement outcome at any stage to engender voluntary compliance. Pappas (2024) posits that the Toulmin's model with its mix of advanced computational techniques presents the Split-up solution as a formidable milestone in AI infusion into the practice of law.

5. The Arguments for AI integration in legal practices: Practical appraisal

AI's invasion of the legal practice space has been supported for its transformation wand. No doubts, smart technology has brought about superlative production output through unparalleled efficiency in data processing to the benefit of end users of legal services. McKinsey Global Institute reveals that the use of AI and automation technologies could effectively reduce a lawyer's work-time input by 23% affording the lawyer more time for other productive engagements (Manyika et al., 2017). This is demonstrated by the ROSS Intelligence AI-solution's capacity to scrutinize millions of legal documents and analyze them in seconds, a feat that could take weeks in manual labor (ROSS Intelligence, 2023).

It has further been argued that AI has exuded capacity to liberalize access to legal service. To this end, solutions like DoNotPay, provides its users with AI-digested legal opinion on multifaceted simplistic legal concerns (Zafar, ibid) The solution has been used by the public to record successes in challenging parking tickets thereby affording legal aid to the poor public who otherwise would need counsel representation. This solution may have democratized the lawyers' services but in practical sense, it has functioned to shrink the lawyers' practice space by allowing encroachment into legal practice by laypersons thereby raising ethical issues and challenging the threshold of professional regulation. This poses an imminent danger to the survival of law practice in third world economies like Nigeria where lawyers are barely struggling to stay afloat (Udemezue & Shaeeb, 2023).

5.1 *Balancing integration of AI into law practice: Confronting the accountability obstacle*

The necessity for an approach that balances and accommodates both the innovative benefits and the ethical requirements in the integration of AI-solutions into the legal space cannot be over-emphasized. Accordingly, AI's utility could be harnessed in a manner that addresses the identified risks by establishing unambiguous guidelines on algorithmic accountability which would provide for bias detections and mode of correction when detected to insulate the integrity and accountability of the legal process from abuse (Kgoale & Odeku, 2023). Where AI generates a deceptive output, the court may make an order barring the use of such data. The AI users are in the circumstances accountable for such deceptive outcome (Bartnick et al., 2024).

The traditional legal practice attaches responsibility to legal-decision makers. Hence, a legal opinion is endorsed by the lawyer who must take responsibility for the authorship. A judge of the jurisprudence endorses his legal-decisions, taking the accolades as well as the bashings in the event that such decisions are challenged. This explains why judges rationalize their decisions by stating the law and policy upon which such decisions are founded. In the era of AI global governance (Sabouri & Mehrdel, 2024) great concern has characterized the inability of algorithms to extrapolate the reason for their output. This feature of AI is conceived as the "black box" syndrome (Rezaec & Tregubova, 2023). The 'black box' syndrome has remained a riddle which the writers of the AI program are yet to unravel. The syndrome shrouds the logic behind AI decision-making in obscurity with grave implications for future-case outputs.

6. The use of data for AI development: Influence of skewed data on bias outcomes

The efficiency and efficacy of AI system depends on the quality of data used for their training. The utility in the data used in the training of algorithm is proportional to the legal liabilities attaching access to such data (Zhang et al., 2024). Errors in the data selected and

integrated as the functional database results in dubious or contentious outputs which eventually impugns the set-goals by perpetuating primordial biases and creating feedback loops with obvious implications. A prominent legal implication of the feedback loop is the veritable mutation of case strategies by legal practitioners with heavy reliance on AI predictions. The feedback loop affords a mechanism where decisions based on AI predictions generate new data and eventually get re-absorbed into the AI infrastructure and the cycle continues (Kiseleva et al., 2022). This cycle amplifies biases and inaccuracies ingrained in the original algorithm in perpetuity with the potential of skewing strategies and legal outcomes over time.

The use of COMPAS solution in the US for assessment of the risk of commission of further crimes after discharge from extant charges raised questions of racism. This followed the unfair algorithmic prediction of high risk of recidivism against African Americans in contrast to their white counterparts (Jackson & Mendoza, ibid.). AI biases extend beyond judicial-decision-making processes to other sphere of human endeavors. Kiseleva et al. (2022) identify AI solutions with biases in medical diagnosis involving minority groups. AI-enhanced diagnostic machines have given less accurate results in cases involving black patients in comparison with their white counterparts on the same procedure. The unequal diagnostic outputs pose manifest treatment risks with discriminative tendencies that could only result in violation of such black patients' human rights.

Similarly, in the area of security and law enforcement, AI solutions have shown great shortcomings. The Facial Recognition Technology (FRT) used for identification purposes has demonstrated serious misidentification in scrutiny of persons of color and other minority groups in contradistinction with the white under similar circumstances. The development results in unfair treatments, unsustainable suspicion of rather innocent citizens gross violation of human rights (Murray, 2024). Consequently, the European Court of Human Rights recently declared the Retrospective Facial Recognition (RFR) and live facial recognition as intrusive and as such a strict standard of justification is required for such to be adjudged necessary in a democratic society.[6] In *Queen (on the application of Edward Bridges) v The Chief Constable of South Wales* (2020),[7] the court examined the legal weight to be attached to evolving smart legaltech. The court acknowledged the emerging relevance of Automatic Facial Recognition (AFR) Technology in the operations of law enforcement but stated that the integrity of the AFR must be situate within a rigorously defined legal framework. Such framework should uphold strict data analysis procedure which would dwarf official discretion and reduce the risks of human rights violations (Gordon, 2021). Zafar (2024) argues that the foregoing pioneering caselaw sets precedent for the need to balance the introduction of technology into the legal space with the citizens' rights to personal data and sundry human rights protection. This would ensure that the AI solutions are designed to promote and not to undermine the fundamental legal principles of fairness, equity and justice (Saputra et al., 2024).

6.1 *Navigating the pathways of bias in legal AI systems*

Algorithms are susceptible to manifesting the biases imbibed in the course of programming and such as are inherent in the AI design itself (Ponton-Nunez, 2022). The creators of the software may lack comprehensive information on certain historical aspect of the data which the AI is expected to rely upon in generating its outcomes. This becomes a challenge in the long

[6] *Glukhin v Russia,* Application No. 11519/20, Judgment Delivered 4 July 2023 at 88.

[7] [2020] EWCA Civ 1058.

run, limiting the solution's excellent performance. Where training data fail to assimilate the length and breadth of the legal conflict such as where a fundamental aspect of the dispute was amicably resolved as with most cases of child upkeep in child custody matters or where certain reliefs are abandoned mid-way into the litigation, court decision on the matter imputed as data for use by the AI, without more would distort the algorithmic predictive potentials when faced with similar disputes (Geslevich Packin & Lev-Aretz, 2018). The resultant outcome in the circumstances would be far from fairness, equity and justice. Beyond technical configurations of AI solutions to generate biases, the realities of algorithmic bias when deployed in judicial decision-making process undermines the entire judicial architecture.

An in-dept understanding of the workings of AI mechanism reveal three major gateways through which biases creep into the algorithmic infrastructure. These gateways which are stages and procedures in the training process include, the data selection process. A database lacking in broad spectrum and representativeness in legal modules as a result of the jaundiced inclusion of specific legal decisions (Pessach & Shmueli, 2021). Similar gateway is the historical bias which informs the configuration of the AI data fortified with antique generational prejudices capable of distorting any conceptions of progressive legal values (Varona & Suarez, 2022). Furthermore, there is the algorithmic-design bias gateway occasioned when an AI-solution is constructed in a manner that defers to particular trends or outputs irrespective of the justice of the outcomes and the value placed on such outcomes by the society within the time and space of the dispute (Morewedge et al., 2023).

Case-based AI solutions are inherently designed to perpetuate biases because of the historical data with which they are trained and from which they are wired to draw their outcomes (Liu et al., 2022). This could create a systemic disadvantage to some group of persons. Pattern identification is very well pronounced in AI-powered child-custody matters where demographic-historically configured data favor mothers over fathers or such other contenders. Law in its dynamic nature maintains its relevance by continuous evolution. Consequently, a system configured primarily on historical data would not easily correspond with the society's evolving threshold of fairness, equity and justice (Greenstein, ibid.). The evolution of new trends and standards in the society may absorb the influence of bias in judicial precedents with time, particularly in a society with progressive legislative reforms and judicial activism. Nevertheless, algorithm that is exclusively trained with historically configured data has greater chances of repeating obsolete patterns tending toward bias (Belenguer, 2022). This eventuality could be obviated by in-built application within the AI's mechanism for adaptation with current legal reasonings within extant societal trends which should be upgraded as occasion demands. Addressing these critical concerns demand intentional efforts made to seriously assess and periodically audit AI-powered legaltech. The invention of an AI solution for the purpose of use in legal service delivery should be made open with calls on experts to submit data. This would ensure that the AI is trained with comprehensive, most recent data in the given field modelled to detect and sift biases.

7. Demonstrating AI's interventions and biased judicial outcomes

AI machines can render predictions based on gender preferences in child custody cases. This explains the black box syndrome, particularly where such predictions flowing from historical data re-enacts arguments on gender inequalities and influence legal decisions on such skewed outcomes (O'Connor & Liu, 2023). The reinforcement of discrimination in the circumstances impugns the integrity of the entire legal process thereby challenging the dependence on AI in judicial decisions. The bias dark spot is strengthened in custody matters in circumstances where AI solution in the course of analysis of previous court judgments detects a pattern which favors a particular gender over another and legal practitioners amend their

techniques to align with the prevailing scenario. The need for the production of AI solutions with inherent transparency and accountability in legal decision-making processes cannot be over emphasized (Busuioc, 2021). This would assure on fair and equitable dispensation of justice and insulate the legal space from overwhelming prejudices of predictive algorithms.

8. Risk assessment in the criminal justice system: AI and legal ethics

Administration of criminal justice defines a government's commitment to social health and security of citizens while exposing its humanity, fairness and ethical inclinations towards a modern democratic society (Mark, 2023). Akinsulore (2020) contends that the efficacy and excellency of the policing mechanism in the administration of criminal justice informs the integrity of the justice institution in a society. The policing powers of the state, which is the gateway into the penal justice delivery organogram, evidences assurances on the protection and restriction of personal rights for the maintenance of a lawful and orderly society (Nelson, 2023). Police operations are required to be carried out without abuse of the constitutionally guaranteed rights (Ehirim et al., *2024*). Thus, the necessity of transparency within the criminal justice institution has birthed the evolution of technical apparatus to protect defendants and the imprisoned from the weight of arbitrary judgment, sometimes borne out of subconscious biases like racism (Yan, 2023). This has warranted the integration of automated decision-making technologies mostly AI tools for impartiality and efficiency at every stage of the judicial process.

For over a century, there has been intentional efforts to reduce wrongful imprisonment of persons based on mundane prejudices by employing risk assessment techniques. This could be by way of data analyses on the defendants which may include psychological profiling, indexes on job, age, gender and race determinants to ascertain the level of risks of re-commission of offence. The good intentions notwithstanding, the assessment solutions have shown inherent biases rooted in jaundiced age-long judicial data and weak modules of deviant behavioral tracking. Risk assessment solutions have been criticized in United States America for being amenable to partiality in favor of majority groups, particularly the whites. Compromised outcomes resulting from skewed data on recidivism distorts fair and accurate risk assessments. In *Ewert v Canada* (2018),[8] the Canadian Supreme Court's examined the use of five psychological and actuarial risk assessment solutions deployed by the Correctional Service (CS) to assess a psychopath's risk of recidivism on the grounds that the tools were produced and tested only on predominantly non-Indigenous population and therefore inaccurate. The defendant had spent thirty years already in incarceration while serving concurrent life sentences. The court held that the CS breached the law by the reliance on the impugned tools which produced inaccurate statistics of the offender. The court further observed the detriment on rehabilitation of offenders convicted on skewed racial and ethnic biases invariably infringing on due process, equal protection and the constitutional right of fair trial (Shah et al., 2021). The court advised on proper regular audit of such tools which function to impact the rights and liberties of citizens.

9. Human factor in balancing ethical issues introduced by AI in family law matters

As earlier stated, the interplay between AI and judicial application of equitable principles in family law matters throws up ethical issues. This includes the potentials of AI to generate agreements in disregard to the peculiar nature of individual-party interests (Lubit, 2021).

[8] [2018] SCC 30.

Family law matters leverage on personalized attention and nuanced rationality which in most cases do not align pointedly with computer predictions. The basis of judicial decrees made in respect of a child must be the best interest on the child which varies in time and space. To this end, child custody considerations engage several factors considered to in the child's best interest. These factors may be psychological, emotional, religious and economic well-being (Brooks, 2022). In Nigeria, weighty factors for considerations may include the cultural requirement for a male child to grow up under his father's watch and within the ambiance of his kinsmen (Foua & Diriwari, 2020). The justice of the outcome may just involve conflict of laws which may not be available within the AI's database.

The judicial outcomes of child custody matters are more intriguing when domestic violence, narcotics abuses, mental health challenges and co-parenting incompatibility are involved. Certain aspects of family law suits settlement may not pose major challenges to AI, particularly asset sharing and alimony. The same cannot be said of matters of child custody because of the dearth of comprehensive data on broad spectrum of disputes with nuanced features (Trimmings, 2023).

9.1 *Human content in al-assisted dispute resolution*

Alternative Dispute Resolution (ADR) is credited with flexibility to align outcomes with the peculiar needs and interests of the disputants in circumstances devoid of strict legal precedents or policy restriction. ADR practitioners exercise wide discretion in their interpretation and application of the legal principles to accommodate nuances of individual disputants (Alessa, 2022). This nature of ADR proceedings complicates attempts to introduce a computer template that can assess the fairness or otherwise of ADR decisions with the accuracy required of AI solutions. The ADR outcomes underscore the benefits of synergy of human expertise and AI's computer templates. The utility of AI in isolation in these areas of law is capable of producing absurd results.

A commendable model in the circumstances requires legal professionals to review recommendations or outcomes generated by Al, constructing them with professional wisdom in consideration of the peculiar dispute and over-lapping interests of all parties. This synergy between AI and human natural intellect is described as "human in the loop" (HITL) approach. The methodology targets the mitigation of AI biases while strictly sticking with public policies and prevailing social values. The approach presents a sort of quasi-judicial oversight to the algorithmic liberties. HITL approach has been seamlessly implemented in medical practice to highlight the benefits of synergizing human verification with automated outcomes. The model properly aligns with judicial decisions holding AI as a tool rather than an independent inventor for the purpose of assigning legal rights and liabilities (Seghal & Qureshi, 2024).

Gingras and Morrison (2021) argue in support of the necessity of integrating HITL approach into family law stressing that algorithms designed for such purposes should be so trained from the formative stage to the periodic audit phases in order to correct or regularized biased data programs. Practitioners whose line of duty relates to the use of HITL facilities should make intentional efforts to understand the criteria for AI decision output and the wats of accountability and transparency of the system.

10. Conclusion

In the evolving legal landscape, the integration of AI tools into decision making processes holds the assurance of innovative judicial productivity. The development would enhance efficiency and broaden the spectrum of options open ADR facilitators, legal practitioners and

judges of the jurisprudence. However, AI-powered legaltech throws up fundamental ethical challenges, particularly in respect of AI's capacity to compromise the unique principles of ADR mechanism which targets resolution by addressing the nuanced interests of disputants. By its inclination towards historical data and precedents, AI exacerbates the risks delivering outcomes that may be statistically correct but which may lead to manifest absurdity in the absence of human input.

The integration of AI into the practice of law highlights issues of propagation of systemic prejudices which directly questions the sanctity and justice of AI outcomes, especially in the criminal justice sector. The specific examples of biases in AI outcomes fortifying racism and discrimination rallies support for caution in the caution and aligns with the call for audit of all AI solutions that have already invaded the legal space.

A case has been made for the HITL mechanism as a stop-gap measure to mitigate the damage of biases in AI outputs. This approach guarantees oversight and accountability in the legal decision-making process involving predictive algorithms. By the HITL model, the human individual saddled with the oversight responsibility may be held accountable for eventual outcomes.

Finally, the legal profession must covet the enormous and transformative potentials of AI to enhance efficiency and accountability in the legal process. Embracing the AI phenomenon into the practice of law should be with eternal vigilance. The profession must caution itself in order to retain the ethical standards for which law practice is known within the dynamics of the digital era. The liberties of technology to invade the realms of law should be contained within stringent legal frameworks.

Acknowledgements

This research did not receive any specific grant from funding agencies in the public commercial, or not-for-profit sectors.

The author declares no competing interests.

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